



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/711,282	09/07/2004	Yui-Shin Fran	12810-US-PA	5281

31561 7590 07/10/2006

JIANQ CHYUN INTELLECTUAL PROPERTY OFFICE
7 FLOOR-1, NO. 100
ROOSEVELT ROAD, SECTION 2
TAIPEI, 100
TAIWAN

EXAMINER

MACCHIAROLO, PETER J

ART UNIT PAPER NUMBER

2879

DATE MAILED: 07/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/711,282

Applicant(s)

FRAN ET AL.

Examiner

Peter J. Macchiarolo

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 April 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 September 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

The reply filed on 04/05/2006 consists of changes to the claims, and further, the reply consists of remarks related to the prior rejection of claims in the previous Office Action. The above have been entered and considered. However, pending claims 1-13 are not allowable as explained below.

Specification

The title has been entered as per Applicant's amendment filed 04/10/2006, however, the title of the invention is still not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The following title is suggested: "Cavity structure and Cold Cathode Fluorescent Lamp Spacers Having Specific Height Tolerances."

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hibino et al (USPN 6800010; "Hibino").

Regarding claims 1 and 5, Hibino shows in figure 1, a cavity structure, comprising: a cavity shell (15, 11); a plurality of spacers (18), disposed in the cavity shell, a hardening paste

Art Unit: 2879

(glass frit Bd), disposed between the cavity shell and the spacers; at least an electrode set (16), disposed on the cavity shell; a fluorescent substance (19), disposed on an inner wall of the cavity shell; and a discharge gas (disposed in the cavity shell).

Hibino is silent to a tolerance of a height of the spacers is larger than about 0.01 mm, or the tolerance of the height of the spacers is in a range of about 1/20 to about 1/4 of the height of the spacers.

However, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. One would be motivated to construct Hibino's spacers with a tolerance of about 0.01 mm, or in a range of about 1/20 to about 1/4 of the height of the spacers to reduce the time and money involved in manufacturing the device, since it is well-known that having larger tolerances allow for reduced manufacturing cost. Further evidence that these limitations would have been obvious can be found in paragraph [0014] of Applicant's instant specification, where Applicant indicates these dimensions are not limiting, but merely examples.

Therefore, in view of the above discussion, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct Hibino's spacers with a tolerance of about 0.01 mm, or in a range of about 1/20 to about 1/4 of the height of the spacers to reduce manufacturing costs.

The Examiner notes that the preamble recites that the cavity structure is used for a CCFFL. This is an intended use type preamble, since it merely recites the intended use of a cavity. Where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone, the preamble is

Art Unit: 2879

generally not accorded any patentable weight. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

Regarding claims 2-4, Hibino is silent to the exact height of the spacers and thickness of the hardening paste.

However, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. Further, one would be motivated to construct Hibino's spacers and hardening paste to the recited dimensions for a variety of reasons, including material availability, and operation methods requiring sensitive parameters. Further evidence that these limitations would have been obvious can be found in paragraph [0014] of Applicant's instant specification, where Applicant indicates these dimensions are not limiting, but merely examples.

Therefore, in view of the above discussion, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct Hibino's spacers and hardening paste to the recited dimensions to reduce manufacturing costs and for operational method having sensitive parameters.

Regarding claim 6, Hibino shows in figure 1, the cavity shell comprises a first substrate (15), a second substrate (11) disposed over the first substrate; and a frame (not shown) disposed between the first substrate and the second substrate and connected to an edge of the first substrate and an edge of the second substrate.

Art Unit: 2879

Regarding claim 7, Hibino teaches the air pressure inside the cavity shell is less than an air pressure outside the cavity shell.

Claims 8-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shichao et al (USPN 5565742; "Shichao").

Regarding claim 8, Shichao shows in figure 8b a cavity structure, comprising: a cavity shell (FFP and BFP); a plurality of spacers (SB), disposed in the cavity shell, a hardening paste (BMM), disposed between the cavity shell and the spacers.

Shichao is silent to a tolerance of a height of the spacers is larger than about 0.01 mm, or the tolerance of the height of the spacers is in a range of about 1/20 to about 1/4 of the height of the spacers.

However, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. One would be motivated to construct Shichao's spacers with a tolerance of about 0.01 mm, or in a range of about 1/20 to about 1/4 of the height of the spacers to reduce the time and money involved in manufacturing the device, since it is well-known that having larger tolerances allow for reduced manufacturing cost. Further evidence that these limitations would have been obvious can be found in paragraph [0014] of Applicant's instant specification, where Applicant indicates these dimensions are not limiting, but merely examples.

Therefore, in view of the above discussion, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct Shichao's spacers with a

Art Unit: 2879

tolerance of about 0.01 mm, or in a range of about 1/20 to about 1/4 of the height of the spacers to reduce manufacturing costs.

Regarding claims 9-11, Shichao is silent to the exact height of the spacers and thickness of the hardening paste.

However, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. Further, one would be motivated to construct Shichao's spacers and hardening paste to the recited dimensions for a variety of reasons, including material availability, and operation methods requiring sensitive parameters. Further evidence that these limitations would have been obvious can be found in paragraph [0014] of Applicant's instant specification, where Applicant indicates these dimensions are not limiting, but merely examples.

Therefore, in view of the above discussion, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct Shichao's spacers and hardening paste to the recited dimensions.

Regarding claim 12, Shichao teaches in column 25, lines 41-43 that the hardening paste (black matrix) comprises glass paste.

Regarding claim 13, Shichao teaches in the abstract, an air pressure inside the cavity shell is less than an air pressure outside the cavity shell.

Response to Arguments

Art Unit: 2879

Applicant's arguments filed 04/10/2006 have been fully considered but they are not persuasive.

First, regarding claim 1, Applicant appears to argue that one of ordinary skill in the art would not be motivated to construct Hibino's barrier ribs with a tolerance of about 0.01 mm or in a range of about 1/20 to about 1/4 the height of the barrier ribs, since one of ordinary skill in the art would not correlate a display panel with a cold cathode fluorescent flat lamp (CCFFL). As discussed in the above rejection, the preamble recites the cavity structure is used for a CCFFL, and a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

Furthermore, the Examiner notes that the claim is written in such a way that the body of the claim does not depend on the preamble for completeness and the preamble therefore does not limit the scope of the claim. Accordingly, the preamble has been considered, but is not given patentable weight since it does not limit the structure of the claimed invention. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951) and MPEP § 2111.02.

Second, regarding claim 1, it appears Applicant argues that one of ordinary skill in the art would not be motivated to construct the spacers with a tolerance of about 0.01mm or in a range of about 1/20 to about 1/4 the height of the barrier ribs, and would only be motivated to do so in light of the instant disclosure. The Examiner respectfully disagrees. The motivation to modify Applicant's spacers to fit within a specific tolerance has come from knowledge which was within the level of ordinary skill at the time the claimed invention was made, NOT from Applicant's instant disclosure.

Further, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Third, regarding claim 8, Applicant appears to argue that one of ordinary skill in the art would not be motivated to construct Hibino's barrier ribs with a tolerance of about 0.01 mm or in a range of about 1/20 to about 1/4 the height of the barrier ribs, since one of ordinary skill in the art would not correlate an electric fluorescent display with a cold cathode fluorescent flat lamp (CCFFL). As discussed in the above rejection, the preamble recites the cavity structure is used for a CCFFL, and a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

Furthermore, the Examiner notes that the claim is written in such a way that the body of the claim does not depend on the preamble for completeness and the preamble therefore does not limit the scope of the claim. Accordingly, the preamble has been considered, but is not given patentable weight since it does not limit the structure of the claimed invention. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951) and MPEP § 2111.02.

Fourth, regarding claim 8, it appears Applicant argues that one of ordinary skill in the art would not be motivated to construct the spacers with a tolerance of about 0.01mm or in a range of about 1/20 to about 1/4 the height of the barrier ribs, and would only be motivated to do so in light of the instant disclosure. The Examiner respectfully disagrees. The motivation to modify Applicant's spacers to fit within a specific tolerance has come from knowledge which was within the level of ordinary skill at the time the claimed invention was made, NOT from Applicant's instant disclosure.

Further, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

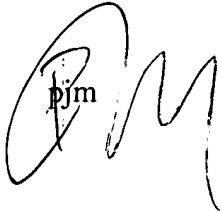
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter J Macchiarolo whose telephone number is (571) 272-2375. The examiner can normally be reached on 8:30 - 5:00, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar Patel can be reached on (571) 272-2475. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.


Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

Art Unit: 2879

system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Pjm



NIMESHKUMAR D. PATEL
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800